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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,318	11/30/2005	Thomas J Dougherty	054821-0528	1306

26371 7590 07/27/2007  
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EXAMINER
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WILLIAMS, ARUN C

ART UNIT	PAPER NUMBER
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2838

MAIL DATE	DELIVERY MODE
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07/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/540,318

Applicant(s)

DOUGHERTY ET AL.

Examiner

Arun Williams

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/23/2005, 6/21/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 1,2-13,15-17,19 – 21,24, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Melcher, (Melcher), USPAT 6,218, 805.**

As for claims 1, Melcher disclose (col.2, lines 26-45) and shows in Fig. 1 a battery monitoring system comprising: a clamp (1) (applicant's component) for determining the magnitude of current flowing through a battery cable (11), from either when charging or discharging occurs (col.4, lines 65- 67), by detecting a magnetic field (col.3, lines 40-45) and using the magnitude of the current to calculate different attributes (applicant's characterizing) of the battery (col.4, lines 14-32).

As for claims 2-5 and 13, Melcher discloses a Hall effect sensor (col.3, lines 50-51). Furthermore, Melcher shows in Fig. 1 & 3 a permalloy (applicant's magnetic material) sensor (21) (applicant's element) coupled to the clamp (1) within a housing (10) and being positioned adjacently to the battery cable (11)(col.3, lines 51-52); to detect the magnetic field is implicit (cls. 3-4).

Art Unit: 2838

As for claims 6-10, Melcher discloses and shows in Fig. 3 a body containing a signal processing unit (16)(applicant's electrical components) wherein the signal processing unit is used to calculate attributes in a battery (col.4, lines 17-32), and an aperture with an insert for receiving a battery cable.

As for claims 11 and 12, Melcher shows in Fig. 2 a connector and a structure; for providing a connection to a vehicle electrical system/vehicle component does not require a vehicle. (On the other hand if required Melcher connector 1 is connected to a vehicle)

As for claim 21, 24, and 25, Melcher discloses (col.3, lines 28-37) the method of calculating the battery current based on voltage measurement (cl.12) and the integration of the current over time (col.4, lines 50-53) (cl. 24); it also implicit for samples (limit) of the current to be taken over time and used for calculations.

Claims 15-17,19, and 20 are implicit in the structure and they recite the same elements in a method format.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 2838

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**7. Claims 14 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melcher in view of Renirie,(Renirie), USPAT 4,259,639.**

As for claim 14, Melcher differs from the claimed invention because he does not explicitly disclose a reed switch.

Renirie discloses and shows in Fig. 4A a measuring circuit (50) being connected to a battery through a reed switch (70).

Renirie is evidence that ordinary skill in the art would find a reason, suggestion or motivation to use a reed switch.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Melcher by using a reed switch for

Art Unit: 2838

advantages such as providing the ability to conserve power (col.8, line 41), as taught by Renirie.

Claim 18 are implicit in the structure and they recite the same elements in a method format.

**8. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Melcher in view of Astala,(Astala), USPAT 6,804,100.**

As for claims 22 and 23 Melcher differs from the claimed invention because he does not explicitly disclose the method of comparing a calculated current value with inferred magnitude of battery current.

Astala discloses the method of comparing a calculated battery current with a determined battery current value to determine the accuracy of measurement (col. 4. lines 11-40).

Astala is evidence that ordinary skill in the art would find a reason, suggestion or motivation to use the method of comparing a calculated current value with inferred magnitude of battery current.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Melcher by using the method of comparing a calculated current value with inferred magnitude of battery current for advantages such as providing a better measured solution (col.4, lines 2-5), as taught by Astala.

### ***Conclusion***

**9.** The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPAT 6,356,050 discloses a hand held battery booster. USPAT

Art Unit: 2838

7,126,341 discloses a vehicle diagnostic apparatus. USPAT 6,614,232 discloses a battery management circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Williams whose telephone number is 571-272-9765. The examiner can normally be reached on Mon - Thrus 6:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arun Williams  
Examiner  
Art Unit 2838

AW

  
KARL EASTHOM  
SUPERVISORY PATENT EXAMINER